TECHNICAL NOTES

LAKE STATES FOREST EXPERIMENT STATION
U.S. DEPARTMENT OF AGRICULTURE · · FOREST SERVICE

No. 414

The Jack-Pine Budworm in Michigan, 1953

In Lower Michigan the jack-pine budworm, Choristoneura pinus Free., outbreak on the Huron National Forest and adjacent state forests declined in intensity in 1953; on the Presque Isle and Black Lake State Forests serious defoliation continued. In the Upper Peninsula severe outbreak conditions exist in localized stands on the Lake Superior State Forest and on the Marquette National Forest.

Substantial losses in reproduction and merchantable jack pine on the Huron National Forest were reported following the budworm outbreak in 1951 and forest managers were alerted to the menace (see Technical Note No. 376). Resurveys of the infested area in 1952 indicated no additional tree mortality (see Technical Note No. 396).

To determine whether a delay in tree mortality occurred after budworm populations declined, the infested area was resurveyed in 1953 in cooperation with the Huron National Forest. The plan of survey was similar to that designed in 1951 to produce results statistically accurate to 8 percent of the total volume on the 109,000 acres of jack-pine type within the forest boundaries. Budworm defoliation was very light to nonexistent on the 32 fifth-acre study plots included in the survey. Losses in these jack pine stands through 1953 are presented in the table below.

Mortality per Acre of Jack Pine Infested with Budworms

Tree size class	1951		1952		1953	
	Number of trees killed	Percent of stand	Number of trees killed	Percent of stand	Number of trees killed	Percent of stand
Poles[1/]	0.2	3	0.3	3	0.2	3
4-inch saplings	10	8	10	10	6	5
2-inch saplings	71	33	31	22	16	12
Reproduction	30	14	23	8	19	7

1/ Data for poles represent loss in cords rather than number of trees.

No delayed mortality of jack pine occurred in 1953 after two previous seasons of severe budworm defoliation. Little additional mortality of jack pine is predicted in the infestation area if budworm populations continue to decline. If severe defoliation recurs, however, some smaller trees may die and tops may be killed in some merchantable trees.

On the Marquette National Forest and Lake Superior State Forest the budworm is expected to continue in outbreak in 1954. To reduce losses, salvage cuttings have been initiated on both forests. No action is being taken on the infested open-growing nonmerchantable jack pine stands on either forest.

April 1954

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